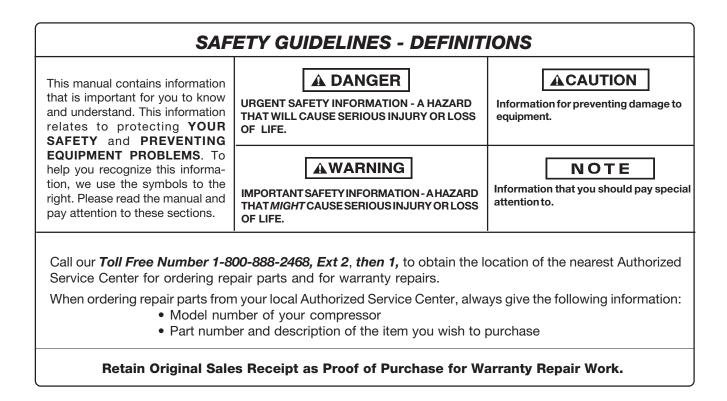
## \_ GENERAL MANUAL FOR OIL LUBRICATED \_\_ SINGLE STAGE PORTABLE AIR COMPRESSOR

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### LIMITED WARRANTY ONE YEAR FROM DATE OF PURCHASE

All merchandise manufactured by DeVilbiss Air Power Company/ExCell Manufacturing is warranted to be free of defects in workmanship and material which occur during the first year from the date of purchase by the original purchaser (initial user). Products covered under this warranty include: air compressors, \*air tools, accessories, service parts, pressure washers, and generators used in consumer applications (i.e., personal residential household usage only).

Air compressors, \*air tools, accessories, service parts, pressure washers, and generators used in commercial applications (income producing) are covered by a 90 day warranty.

DeVilbiss Air Power/ExCell Manufacturing will repair or replace, at DeVilbiss/ExCell's option, products or components which have failed within the warranty period. Repair or replacement, and service calls on 60 and 80 gallon air compressors, will be handled by Authorized Warranty Service Centers and will be scheduled and serviced according to the normal work flow and business hours at the service center location, and depending on the availability of replacement parts.

All decisions of DeVilbiss Air Power Company/ExCell Manufacturing with regard to this policy shall be final.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

#### RESPONSIBILITY OF ORIGINAL PURCHASER (Initial User):

- □ Retain original cash register sales receipt as proof of purchase for warranty work.
- Use reasonable care in the operation and maintenance of the product as described in the Owners Manual(s).
- Deliver or ship the product to the nearest DeVilbiss Air Power/ExCell Manufacturing Authorized Warranty Service Center. Freight costs, if any, must be paid by the purchaser.
- □ Air compressors with 60 and 80 gallon tanks only will be inspected at the site of installation. Contact the nearest Authorized Warranty Service Center, that provides on-site service calls, for service call arrangement.
- □ If the purchaser does not receive satisfactory results from the Authorized Warranty Service Center, the purchaser should contact DeVilbiss Air Power Company/ExCell Manufacturing.

## THIS WARRANTY DOES NOT COVER:

- Merchandise sold as reconditioned, floor models and/or display models. Any damaged or incomplete equipment sold "as is".
- □ Merchandise used as "rental" equipment.
- Merchandise that has become inoperative because of ordinary wear, misuse, freeze damage, use of improper chemicals, negligence, accident, improper and/or unauthorized repair or alterations including failure to operate the product in accordance with the instructions provided in the Owners Manual (s) supplied with the product. \*Air Tools: O-Rings and driver blades are considered ordinary wear parts, therefore, they are warranted for a period of 45 days from the date of purchase.
- ❑ An air compressor that pumps air more than 50% during a one hour period is considered misuse because the air compressor is undersized for the required air demand. Maximum compressor pumping time per hour is 30 minutes.
- Merchandise sold by DeVilbiss Air Power/ExCell Manufacturing which has been manufactured by and identified as the product of another company. The product manufacturer's warranty will apply.
- Repair and transportation costs of merchandise determined not to be defective.
- Cost associated with assembly, required oil, adjustments or other installation and start-up cost.
- ANYINCIDENTAL, INDIRECT OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE OR MALFUNCTION OF THE PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.



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## **IMPORTANT SAFETY INSTRUCTIONS**

• SAVE THESE INSTRUCTIONS •



## 

**IMPROPE**R OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE. READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUC-TIONS BEFORE USING THIS EQUIPMENT.



HAZARD	WHAT CAN HAPPEN	HOW TO PREVENT IT
RISK OF BURSTING	AIR TANK	
	The following conditions could lead to a weakening of the tank, and <u>result</u> in a violent tank explosion:	
	1. FAILURE TO PROPERLY DRAIN CONDENSED WATER FROM THE TANK, CAUSING RUST AND THINNING OF THE STEEL TANK.	DRAIN TANK DAILY OR AFTER EACH USE. IF TANK DEVELOPS A LEAK, REPLACE IT IMMEDIATELY WITH A NEW TANK OR NEW COMPRESSOR OUTFIT.
	2. <u>MODIFICATIONS</u> OR ATTEMPTED REPAIRS <u>TO THE TANK.</u>	NEVER DRILL INTO, WELD, OR MAKE ANY MODIFICATIONS TO THE TANK OR ITS ATTACHMENTS.
	3. UNAUTHORIZED <b>MODIFICATIONS TO THE</b> <b>PRESSURE SWITCH, SAFETY VALVE, OR</b> ANY <b>OTHER COMPONENTS WHICH</b> <b>CONTROL</b> TANK <b>PRESSURE.</b>	THE TANK IS DESIGNED TO WITHSTAND SPECIFIC OPERATING PRESSURES. <u>NEVER</u> <u>MAKE ADJUSTMENTS OR PARTS SUBSTI- TUTIONS TO</u> ALTER THE <u>FACTORY SET</u> OPERATING <u>PRESSURES.</u>
	ATTACHMENTS & ACCESSORIES	
	EXCEEDING THE PRESSURE RATING OF AIR TOOLS, SPRAY GUNS, AIR OPERATED ACCES- SORIES, TIRES AND OTHER INFLATABLES <u>CAN</u> <u>CAUSE THEM TO EXPLODE</u> OR FLY APART, AND COULD RESULT IN SERIOUS INJURY.	FOLLOW THE EQUIPMENT MANUFACTUR- ERS RECOMMENDATION AND NEVER EXCEED THE MAXIMUM ALLOWABLE PRES- SURE RATING OF ATTACHMENTS. <u>NEVER</u> <u>USE COMPRESSOR TO INFLATE SMALL</u> LOW-PRESSURE OBJECTS SUCH AS CHILDREN'S TOYS, FOOTBALLS, BASKETBALLS. ETC.
RISK OF EXPLOSION OR FIRE	IT IS NORMAL FOR ELECTRICAL CONTACTS WITHIN THE MOTOR AND PRESSURE SWITCH TO SPARK.	ALWAYS OPERATE THE COMPRESSOR IN A WELL VENTILATED AREA FREE OF COM- BUSTIBLE MATERIALS, GASOLINE OR SOL- VENT VAPORS.
	IF ELECTRICAL <u>SPARKS</u> FROM COMPRESSOR Come into contact with flammable Vapors, they may ignite, causing fire Or explosion.	IF SPRAYING FLAMMABLE MATERIALS, <u>LO-</u> CATE COMPRESSOR AT LEAST 20 FEET AWAY FROM SPRAY AREA. AN ADDITIONAL LENGTH OF HOSE MAY BE REQUIRED.
		STORE FLAMMABLE MATERIALS IN A SECURE LOCATION AWAY FROM COM- PRESSOR.
	RESTRICTING ANY OF THE COMPRESSOR VENTILATION OPENINGS WILL CAUSE SERI- OUS OVERHEATING AND COULD CAUSE FIRE.	NEVER PLACE OBJECTS AGAINST OR ON TOP OF COMPRESSOR. OPERATE COM- PRESSOR IN AN OPEN AREA AT LEAST 12 INCHES AWAY FROM ANY WALL OR OBSTRUCTION THAT WOULD RESTRICT THE FLOW OF FRESH AIR TO THE VENTILATION OPENINGS.
RISK OF ELECTRICAL SHOCK	YOUR AIR COMPRESSOR IS POWERED BY <u>ELECTRICITY.</u> LIKE ANY OTHER ELECTRI- CALLY POWERED DEVICE, IF IT IS NOT USED PROPERLY IT MAY CAUSE ELECTRIC SHOCK.	NEVER OPERATE THE COMPRESSOR OUT- DOORS WHEN IT IS RAINING OR IN WET CONDITIONS. NEVER OPERATE COMPRESSOR WITH
<b>S</b>		COVER COMPONENTS REMOVED OR DAM- AGED.

HAZARD	WHAT CAN HAPPEN	HOW TO PREVENT IT
RISK OF ELECTRICAL SHOCK (cont'd)	REPAIRS ATTEMPTED BY UNQUALIFIED PERSONNEL CAN RESULT IN SERIOUS INJURY OR DEATH BY ELECTROCUTION.	ANY <u>ELECTRICAL WIRING OR REPAIRS</u> REQUIRED ON THIS PRODUCT <u>SHOULD BE</u> <u>PERFORMED BY AUTHORIZED SERVICE CEN-</u> <u>TER PERSONNEL</u> IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
₹ ₩	ELECTRICAL GROUNDING: FAILURE TO PROVIDE ADEQUATE GROUNDING TO THIS PRODUCT COULD RESULT IN SERIOUS INJURY OR DEATH FROM ELECTROCUTION. SEE GROUNDING INSTRUCTIONS.	MAKE CERTAIN THAT THE ELECTRICAL CIRCUIT TO WHICH THE COMPRESSOR IS CONNECTED PROVIDES PROPER ELECTRI- CAL GROUNDING, CORRECT VOLTAGE AND ADEQUATE FUSE PROTECTION.
RISK FROM FLYING OBJECTS	THE COMPRESSED AIR STREAM CAN CAUSE SOFT TISSUE DAMAGE TO EXPOSED SKIN AND CAN PROPEL DIRT, CHIPS, LOOSE PARTICLES AND SMALL OBJECTS AT HIGH	ALWAYS WEAR ANSI Z87.1 APPROVED SAFETY GLASSES WITH SIDE SHIELDS WHEN USING THE COMPRESSOR.
	SPEED, RESULTING IN PROPERTY DAMAGE OR PERSONAL INJURY.	NEVER POINT ANY NOZZLE OR SPRAYER TOWARD ANY PART OF THE BODY OR AT OTHER PEOPLE OR ANIMALS.
		ALWAYS <b>TURN THE COMPRESSOR OFF AND</b> <b>BLEED PRESSURE</b> FROM THE AIR HOSE AND TANK <b>BEFORE</b> ATTEMPTING MAINTENANCE, <b>ATTACHING TOOLS</b> OR ACCESSORIES.
RISK TO BREATHING	THE <u>COMPRESSED AIR</u> FROM YOUR COM- PRESSOR IS NOT SAFE FOR BREATHING! THE AIR STREAM MAY CONTAIN CARBON MONOX- IDE, TOXIC VAPORS OR SOLID PARTICLES.	NEVER INHALE AIR FROM THE COMPRESSOR EITHER DIRECTLY OR FROM A BREATHING DEVICE CONNECTED TO THE COMPRESSOR.
	SPRAYED MATERIALS SUCH AS PAINT, PAINT SOLVENTS, PAINT REMOVER, INSECTICIDES, WEED KILLERS, ETC <u>CONTAIN HARMFUL</u> <u>VAPORS</u> AND POISONS.	WORK IN AN AREA WITH GOOD CROSS- VENTILATION. READ AND FOLLOW THE SAFETY INSTRUCTIONS PROVIDED ON THE LABEL OR SAFETY DATA SHEETS FOR THE MATERIAL YOU ARE SPRAYING. USE A NIOSH/MSHA APPROVED RESPIRATOR DE- SIGNED FOR USE WITH YOUR SPECIFIC APPLICATION.
RISK OF FALLING	A PORTABLE <u>COMPRESSOR CAN FALL</u> FROM A TABLE, WORKBENCH OR ROOF <u>CAUSING</u> <u>DAMAGE TO THE COMPRESSOR WHICH</u> <u>COULD RESULT IN SERIOUS INJURY.</u>	ALWAYS <u>OPERATE COMPRESSOR IN A</u> STABLE SECURE POSITION TO PREVENT ACCIDENTAL MOVEMENT OF THE UNIT. <u>NEVER</u> <u>OPERATE COMPRESSOR ON</u> A ROOF OR OTHER <u>ELEVATED POSITION.</u> <u>USE ADDI- TIONAL</u> AIR <u>HOSE TO REACH HIGH LOCA- TIONS.</u>
RISK FROM MOVING PARTS	THE COMPRESSOR CYCLES AUTOMATI- CALLY WHEN THE PRESSURE SWITCH IS IN THE ON/AUTO POSITION.	ALWAYS <u>TURN OFF</u> THE <u>COMPRESSOR</u> , <u>BLEED PRESSURE FROM THE AIR HOSE AND</u> <u>TANK, AND UNPLUG FROM ELECTRICAL</u> <u>OUTLET BEFORE PERFORMING MAINTE-</u> <u>NANCE OR ATTACHING TOOLS AND ACCES-</u> <u>SORIES.</u>
	MOVING PARTS CAN CAUSE SERIOUS IN- JURY OR DAMAGE IF THEY COME INTO CONTACT WITH YOU OR YOUR CLOTHING.	DO NOT REMOVE THE PROTECTIVE COVERS FROM THIS PRODUCT. <u>NEVER OPERATE</u> THE <u>COMPRESSOR WITH GUARDS</u> OR COVERS WHICH ARE DAMAGED OR <u>REMOVED.</u>
	ATTEMPTING TO OPERATE OR REPAIR COMPRESSOR WITH PROTECTIVE SHROUDS REMOVED CAN EXPOSE YOU TO MOVING PARTS AND ELECTRICAL SHOCK.	ANY <b>REPAIRS</b> REQUIRED ON THIS <b>PRODUCT</b> Should be performed by Authorized Service center personnel.
	Touching Exposed Metal Such as the Compressor head or outlet tube <u>Can</u> Result in Serious Burns.	NEVER TOUCH ANY EXPOSED METAL PARTS ON COMPRESSOR DURING OR IMMEDIATELY AFTER OPERATION. <u>COMPRESSOR WILL</u> <u>REMAIN HOT</u> FOR SEVERAL MINUTES AFTER OPERATION.
TMPCPOL - 5/1/97		

### GLOSSARY

CFM: Cubic feet per minute.

**SCFM:** Standard cubic feet per minute; a unit of measure of air delivery.

**PSIG:** Pounds per square inch gauge; a unit of measure of pressure.

**ASME:** American Society of Mechanical Engineers; made, tested, inspected and registered to meet the standards of ASME.

**U.L. Listed:** Products with the U.L. mark are listed by Underwriters Laboratories, Inc. (U.L.). Samples of these products have been evaluated by U.L. and meet the applicable U.L. Standards of Safety.

**California Code:** Unit may comply with California Code 462 (L) (2)/(M) (2). Specification/model label is on the side of the tank on units that comply with California Code.

**Cut-In Pressure:** While the motor is off, air tank pressure drops as you continue to use your accessory or air tool. When the tank pressure drops to a certain low level the motor will restart automatically. The low pressure at which the motor automatically re-starts is called "cut-in pressure."

**Cut-Out Pressure:** When you turn on your air compressor and it begins to run, air pressure in the air tank begins to build. It builds to a certain high pressure before the motor automatically shuts off - protecting your air tank from pressure higher than its capacity. The high pressure at which the motor shuts off is called "cut-out pressure."

## **DUTY CYCLE**

All DeVilbiss Air Power manufactured air compressors should be operated on not more than a 50% duty cycle. This means an air compressor that pumps air more than 50% of one hour, is considered misuse, because the air compressor is undersized for the required air demand. Maximum compressor pumping time per hour is 30 minutes.

## **GENERAL INFORMATION**

You have purchased an air compressor unit consisting of an aluminum 2 cylinder, single-stage air compressor pump (with cast iron sleeves), an air tank, wheels, handle, associated controls and instruments.

Your air compressor can be used for operating paint spray guns, air tools, caulking guns, grease guns, air brushes, sandblasters, inflating tires and plastic toys, spraying weed killers, insecticides, etc. An air pressure regulator is required for most of these applications.

An air line filter is usually required for removal of moisture and oil vapor in compressed air when a paint spray gun is used.

An in-line lubricator is usually required for air tools to prolong tool life.

Separate air transformers which combine the functions of air regulation and/or moisture and dirt removal should be used where applicable.

## **ON-RECEIPT INSPECTION**

Each air compressor outfit is carefully tested and checked before shipment. With improper handling, damage may result in transit and cause problems in compressor operation.

Immediately upon arrival, check equipment for both concealed and visible damages to avoid expenses being incurred to correct such problems. This should be done regardless of any visible signs of damage to the shipping container. If this product was shipped directly to you, report any damages to carrier and arrange for inspection of goods immediately.

For the location or a listing of the nearest DeVilbiss Air Power Authorized Warranty Service Center, call our toll free number at **1-800-888-2468**, **Ext. 2**.

## DESCRIPTION OF OPERATION

**Drain Valve:** The drain valve is located at the base of the air tank and is used to drain condensation at the end of each use.

**Motor Thermal Overload Protector:** The electric motor has an automatic thermal overload protector. If the motor overheats for any reason, the thermal overload protector will shut off the motor. The motor must be allowed to cool before restarting.

**ON/AUTO - OFF Switch (Pressure Switch):** Turn this switch ON to provide automatic power to the pressure switch and OFF to remove power at the end of each use. The pressure switch automatically starts the motor when the air tank pressure drops below the factory set "cut-in" pressure. It stops the motor when the air tank pressure reaches the factory set "cut-out" pressure.

**Air Intake Filter:** This filter is designed to clean air coming into the pump. This filter must always be clean and ventilation openings free from obstructions. See "Maintenance".

**Air Compressor Pump:** To compress air, the pistons moves up and down in the cylinder. On the downstroke, air is drawn in through the air intake valves. The exhaust valve remains closed. On the upstroke of the piston, air is compressed. The intake valves close and compressed air is forced out through the exhaust valve, through the outlet tube, through the check valve and into the air tank. Working air is not available until the compressor has raised the air tank pressure above that required at the air outlet.

**Check Valve:** When the air compressor is operating, the check valve is "open", allowing compressed air to enter the air tank. When the air compressor reaches "cut-out" pressure, the check valve "closes", allowing air pressure to remain inside the air tank.

**Pressure Release Valve:** The pressure release valve located on the side of the pressure switch, is designed to automatically release compressed air from the compressor head and the outlet tube when the air compressor reaches "cut-out" pressure or is shut off. If the air is not released, the motor will try to start, but will be unable to. The pressure release valve allows the motor to restart freely. When the motor stops running, air will be heard escaping from the valve for a few seconds. No air should be heard leaking when the motor is running, or continuous leaking after unit reaches cut-out pressure.

**Safety Valve:** If the pressure switch does not shut off the air compressor at its cut-out pressure setting, the safety valve will protect against high pressure by "popping out" at its factory set pressure (slightly higher than the pressure switch cut-out setting).

#### **DESCRIPTION OF OPERATION (cont'd)**

Outlet Pressure Gauge: The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. This pressure is controlled by the regulator and is always less or equal to the tank pressure. See "Operating Procedures".

Tank Pressure Gauge: The tank pressure gauge indicates the reserve air pressure in the tank.

Regulator: The air pressure coming from the air tank is controlled by the regulator knob. Turn the knob clockwise to increase pressure and counterclockwise to decrease pressure. To avoid minor readjustment after making a change in pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce to some pressure less than that desired, then bring up to the desired pressure. Depending on the air requirements of each particular accessory, the outlet regulated air pressure may have to be adjusted while you are operating the accessory.

## ASSEMBLY INSTRUCTIONS

#### **Items Needed for Assembly**

- a 9/16" socket or open-end wrench for attaching the wheels
- a 3/8" open-end wrench to tighten handle screws

### Installing Wheels, Handles, Rubber Foot Strip

It may be necessary to brace or support one end of the outfit when attaching the wheels because the air compressor will have a tendency to tip.

- 1. Remove the protective paper strip from the adhesivebacked rubber foot strip. Attack the rubber foot strip to the bottom of the air tank leg. Press firmly into place.
- 2. The leg bracket on the underside of the air compressor tank has 2 holes on each side for mounting the wheels. Place one shoulder bolt through the hole in a wheel. On models with 10" wheels, push the bolt through the TOP hole of the leg bracket. For models with 8" wheels, push the bolt through the **BOTTOM** hole of the leg bracket. Screw on one hex locking nut. The special locking nut does not turn freely. Tighten the nut firmly until it contacts the tank leg. The outfit will sit level if the wheels are properly installed.

#### NOTE

The side of the wheel, that the hub protrudes out past the wheel edge, should be bolted to the compressor leg.

#### 

THE WHEELS AND HANDLE DO NOT PROVIDE ADEQUATE CLEARANCE, STABILITY OR SUP-PORT FOR PULLING THE UNIT UP AND DOWN STAIRS OR STEPS. THE UNIT MUST BE LIFTED **OR PUSHED UP A RAMP. DO NOT LIFT THE UNIT** BY THE MANIFOLD ASSEMBLY. THE UNIT CAN **BEDAMAGED.** 

#### **Installing Handle**

- 1. Insert the open end of the handle under the saddle (Fig. 1). Before attaching handle, you may have to pull the open ends of the handle apart so they fit tightly against the side of the saddle. Looking in from the open end of the saddle. position the handle toward the two bent tabs, on the inside walls of the saddle. Slowly push the open ends of the handle onto both tabs at the same time (Fig. 2). Continue pushing the handle into the saddle until the holes on the side of the saddle and handle are in line.
- 2. Guide the straight end of each retaining clip through the saddle hole and both handle holes (Fig. 3).
- 3. Rotate each retaining clip clockwise and press down until it snaps into place over the pull handle (Fig. 4).
- 4. If the handle has excessive movement, it is improperly installed. Check the following.
  - A. Are both tabs inside the handle (Step #1)?
  - B. Does each clip pass through both the saddle and handle (Step #2)?

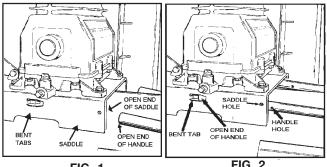
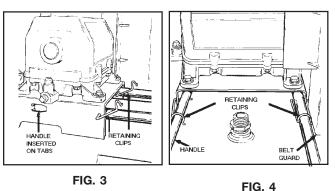




FIG. 2



## **INSTALLATION AND BREAK-IN** PROCEDURES

#### **Location of the Air Compressor**

Operate the air compressor in a clean, dry and well ventilated area. The fan bladed flywheel must be kept clear of obstructions that could interfere with the flow of air through the air intake filter. The pump crankcase and head are designed with fins to provide proper cooling.

If humidity is high, an air filter can be installed on the air outlet adapter to remove excessive moisture. Closely follow the instructions packaged with the filter for proper installation. It must be installed as close as possible to the accessory.Do not place the air compressor where heat is excessive.

When locating the compressor outside, make sure there is a mimum of 12 inches on each side of the compressor. There must be fresh air flow for proper cooling. DO NOT ALLOW THE COMPRESSOR TO GET WET.

#### **Voltage and Circuit Protection**

Refer to your Parts Manual for voltage and circuit protection requirements of your compressor. Use only a fuse or circuit breaker that is the same rating as the branch circuit the air compressor is operated on. If the compressor is connected to a circuit protected by fuses, use only dual element time delay fuses, as noted in the Parts Manual.

#### 

Certain air compressors can be converted from 120V to 240V operation. When converting an air compressor to 240V operation, the attached three-prong 120V cord assembly must be replaced with a three-pronged 240V cord assembly that can be purchased through an Authorized Warranty Service Center. To locate an Authorized Warranty Service Center nearest you, call us at 1-800-888-2468, Ext. 2, then 2.

Some models have a dual voltage motor, 120 and 240 volt. They are wired for 120 volt but can be converted to 240 volt operation. Instructions for connecting the motor for operation at 240 volt can be found printed on the label attached to the side of the motor.

#### 

Certain air compressor models can be operated on a 15 amp circuit if:

- 1. Voltage supply to circuit is normal.
- 2. Circuit is not used to supply any other
- electrical needs (lights, appliances, etc.) 3. Extension cords comply with specifications
- in this manual. 4. Circuit is equipped with a 15 amp circuit
- breaker or 15 amp time delay fuse.

#### **Extension Cords**

To avoid voltage drop and power loss to the motor, and to prevent overheating, use extra air hose instead of an extension cord.

If an extension cord *must* be used:

- use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the extension cord.
- make sure the extension cord is in good condition.
- the extension cord should be no longer than 50 feet.
- the minimum wire size is 12 gauge (AWG). (Wire size increases as gauge number decreases. 10 AWG and 8 AWG may also be used. DO NOT USE 14 AWG or 16 AWG.)

#### **Lubrication and Oil**

#### 

Multi-Viscosity motor oils, like 10W 30, should not be used in an air compressor. They leave carbon deposits on critical components, thus reducing performance and compressor life. <u>Use air compressor oil</u> only.



<u>Compressors are shipped without oil</u>. A small amount of oil may be present in the pump upon receipt of the air compressor. This is due to plant testing and does not mean that the pump contains oil. Do not attempt to operate this air compressor without first adding oil to the crankcase. Serious damage can result from even limited operation unless filled with oil and broken in correctly. Make sure to closely follow initial start-up procedures. Place unit on a level surface. Remove oil fill plug and slowly add a compressor oil such as Castrol Heavy Duty 30 weight until it is even with the top of the oil fill hole. (It must not be allowed to be lower than 3/8" -- 6 threads down -- from the top at any time.) When filling the crankcase, the oil flows very slowly into the pump. If the oil is added too quickly, it will overflow and appear to be full. *Crankcase oil capacity is 16 fluid ounces.* Replace oil fill plug.

#### NOTE

Drain and refill the compressor pump crankcase after the first 100 hours of operation.

## **GROUNDING INSTRUCTIONS**

#### 

**RISK OF ELECTRICAL SHOCK!** In the event of a short circuit, grounding reduces the risk of shock by providing an escape wire for the electric current. This air compressor must be properly grounded.

The air compressor is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be used with an outlet that has been installed and grounded in accordance with all local codes and ordinances. The outlet must have the same configuration as the plug. See illustration. **DO NOT USE AN ADAPTER.** 

Inspect the plug and cord before each use. Do not use if there are signs of damage.

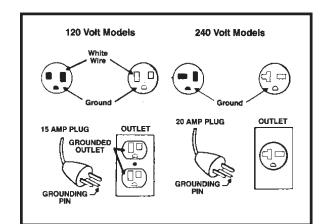
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#### IMPROPER GROUNDING CAN RESULT IN ELEC-TRICAL SHOCK.

Do not modify the plug that has been provided. If it does not fit the available outlet, the correct outlet should be installed by a qualified electrician.

If repairing or replacing cord or plug, the grounding wire must be kept separate from the current-carrying wires. Never connect the grounding wire to a flat blade plug terminal. The grounding wire has insulation with an outer surface that is green - with or without yellow stripes.

If these grounding instructions are not completely understood, or if in doubt as to whether the compressor is properly grounded, have the installation checked by a qualified electrician.



#### Piping

#### **A**WARNING

Plastic or PVC pipe is not designed for use with compressed air. Regardless of its indicated pressure rating, plastic pipe can burst from air pressure. Use only metal pipe for air distribution lines.

If a pipe line is necessary, use pipe that is the same size as the air tank outlet. Piping that is too small will restrict the flow of air. If piping is over 100 feet long, use the next larger size. Bury underground lines below the frost line and avoid pockets where condensation can gather and freeze. Apply pressure before underground lines are covered to make sure all pipe joints are free of leaks.

Connect the piping to the 3/8" NPT air outlet opening at the end of the air tank.

#### **Additional Regulators and Controls**

Since the air tank pressure is usually greater than that which is needed, a separate regulator is employed to control the air pressure ahead of any individual air driven device.

Separate air transformers which combine the function of air regulation, moisture and dirt removal should be used where applicable.

#### **Break-in Procedures**

#### 

Serious damage may result if the following break-in instructions are not closely followed.

#### This procedure is required:

- 1. Before the air compressor is put into service. (Before the hose is installed)
- 2. When the check valve is replaced.
- 3. When a complete compressor pump is replaced.
  - a. Set the pressure switch lever to the "OFF" position.
  - b. Plug the power cord into the correct branch circuit receptacle.
  - c. Turn the regulator clockwise (or open the shut-off valve), opening it fully, to prevent air pressure build-up in the tank.
  - d. Move the pressure switch lever to "ON/AUTO". The compressor will start.
  - e. Run the compressor for 30 minutes. Make sure the regulator, or shut-off valve, is open and there is no tank pressure build-up.
  - f. After 30 minutes, close the regulator by turning it counterclockwise or close the shut-off valve by turning the knob clockwise. The air receiver will fill to cut-out pressure and the motor will stop. The compressor is now ready for use.

## **OPERATING PROCEDURES**

#### Daily Start-Up Checklist

Perform the following checks before starting the compressor outfit.

- 1. Make sure that nothing is blocking the belt guard air openings or air filter inlet.
- 2. Pull the ring on all safety valve to make sure the valve moves freely and smoothly.
- 3. Check the oil level; add oil if necessary.

- 4. Clean or blow off fins or any part of compressor that collects dust and dirt. Compressor will run cooler and provide longer service.
- Before attaching an air hose or accessory make sure the pressure switch lever is in the "OFF" position. Close the air regulator outlet by turning it counterclockwise.
- 6. Attach hose and accessory

#### Start the compressor outfit and check the following:

- With the outlet valve closed, start the compressor outfit. Allow the outfit to pump up to cut-off pressure.
- 2. Make sure that all controls are operating correctly. Refer to "Description of Operation" section of this manual.
- Check all line fittings and piping for air leaks. Even minor leaks can cause the compressor to over work, resulting in premature breakdown or unsatisfactory performance.
- 4. Check for any unusual vibration and noise.
- 5. Check for oil leaks. Correct any leaks found.
- 6. Open shutoff valve. Your outfit is ready for use.

#### 

TOO MUCH AIR PRESSURE CAUSES A HAZARD-OUS RISK OF BURSTING. CHECK THE MANUFACTURER'S MAXIMUM PRESSURE RAT-ING FOR AIR TOOLS AND ACCESSORIES. THE REGULATOR OUTLET PRESSURE MUST NEVER EXCEED THE MAXIMUM PRESSURE RATING. ON MODELS HAVING ONLY A SHUT-OFF VALVE, YOU MUST INSTALL A REGULATOR BEFORE USING ACCESSORIES RATED AT LESS THAN 125 PSIG.

#### 

Compressed air from the outfit may contain water condensation and oil mist. Do not spray unfiltered air at an item that could be damaged by moisture. Some air operated tools or devices may require filtered air. Read instructions for the air tool or device.

#### When You Are Finished:

- 7. Set the pressure switch lever to "OFF".
- 8. Close the shutoff valve.
- 9. Remove the air tool or accessory.
- 10. Open the shutoff valve and allow the air to slowly bleed from the tank. Close shutoff valve when tank pressure is approximately 20 PSI.

### **A**WARNING

#### DRAIN TANK DAILY. WATER WILL CONDENSE IN THE AIR TANK. IF NOT DRAINED, WATER WILL CORRODE AND WEAKEN AIR TANK, CAUSING A RISK OF AIR TANK RUPTURE.

11. With tank pressure at approximately 20 PSI, open the drain cock and allow moisture to drain.

NOTE

#### If the drain cock valve is plugged, release all air pressure. The valve can then be removed, cleaned and reinstalled.

12. After the water has been drained, close the drain cock. The air compressor can now be stored.

### MAINTENANCE

#### 

UNIT CYCLES AUTOMATICALLY WHEN POWER IS ON. DURING MAINTENANCE, YOU COULD BE EXPOSED TO VOLTAGE SOURCES, COM-PRESSED AIR OR MOVING PARTS. PERSONAL INJURIES CAN OCCUR. UNPLUG THE UNIT AND BLEED OFF ALL AIR TANK PRESSURE BEFORE DOING ANY MAINTENANCE OR REPAIR. NEVER OPERATE THE UNIT WITH THE BELT GUARD REMOVED.

To ensure efficient operation and longer life of the air compressor outfit, a routine maintenance schedule should be prepared and followed. The following routine maintenance schedule is geared to an outfit in a normal working environment operating on a daily basis. If necessary, the schedule should be modified to suit the conditions under which your compressor is used. The modifications will depend upon the hours of operation and the working environment. Compressor outfits in an extremely dirty and/or hostile environment will require a greater frequency of all maintenance checks. Lubricate compressor motor (if required) according to manufacturer's instructions, which are attached to your motor.

## Routine Maintenance Schedule *Daily:*

- 1. Check oil level. Add if necessary.
- 2. Drain water from the air tank, any moisture separators or transformers.
- 3. Check for any unusual noise and/or vibration.
- 4. Manually check all safety valves to make sure they are operating properly.
- 5. Inspect for oil leaks and repair any leaks found.
- 6. Inspect air filter, replace if necessary.

#### Every 40 Hours of Operation:

- 1. Clean and inspect the air intake filter; replace if necessary.
- 2. Inspect condition of drive belt; replace if necessary.

#### Every 100 Hours of Operation:

- 1. Drain and refill compressor crankcase with 16 fluid ounces (473.2 ml) of clean compressor or Castrol Heavy Duty 30 weight .
- 2. Increase frequency of oil changes if humidity or operating conditions are extreme.

#### Every 160 Hours of Operation:

- 1. Check drive belt tension; adjust if necessary. (Refer to SERVICE INSTRUCTIONS in this manual.)
- 2. Inspect air lines and fittings for leaks; correct as necessary.
- 3. Check the alignment of the motor pulley to the flywheel. If necessary, align to within 1/32 inch on centerline.

## Each Year of Operation or if a Problem is Suspected:

Check condition of air compressor pump intake and exhaust valves. Replace if damaged or worn out.

### SERVICE INSTRUCTIONS

Air Filter - Inspection and Replacement

#### **A**CAUTION

Keep the air filter clean at all times. Do not operate the compressor with the air filter removed.

A dirty air filter will not allow the compressor to operate at full capacity. Before you use the compressor, check the air filter to be sure it is clean.

If it is dirty, replace it with a new filter. On some models, the filter may be removed by using a pair of needle nosed pliers or a screwdriver. Pull or pry out the old filter. Push in the new air filter. Other models require removal of the belt guard and/ or filter retainer.

#### **Oil - Checking and Changing**

#### 

## Overfilling with oil will cause premature compressor failure. Do not overfill.

<u>Check oil level in the crankcase daily. Remove the oil fill plug.</u> <u>The oil level should be even with the top of the fill hole and must</u> <u>not be allowed to be lower than 3/8" from the top (6 threads)</u> <u>at any time.</u> It is recommended that the oil be changed after every 100 hours of operation. To drain the oil, remove the oil drain plug and collect the oil in a suitable container. Be sure to replace the plug securely before adding new oil. Use a compressor oil such as Castrol Heavy Duty 30 weight. Crankcase oil capacity is 16 fluid ounces (473.2 ml).

#### **Check Valve - Inspection and Replacement**

Remove and inspect the check valve at least once a year or more often if the compressor is heavily used. Moisture and other contaminants in the hot compressed air will cause an accumulation of a carbon-like residue on the working parts. If the valve has heavy carbon build-up, it should be replaced. Use the following procedure to inspect, clean or replace the check valve.

- 1. Unplug compressor. Release air pressure from the air tank.
- 2. Loosen the top and bottom tube nuts and remove the outlet tube.
- 3. Unscrew the check valve (turn counterclockwise) using socket wrench (7/8").
- Check that the valve disc moves freely and that the spring holds the disc in the upper, closed position. The check valve may be cleaned with a solvent.
- 5. Apply sealant to the check valve threads. Reinstall the check valve (turn clockwise). **Do not overtighten.**
- 6. Replace the outlet tube and tighten top and bottom tube nuts.

#### Safety Valve - Inspection and Replacement

### **A**WARNING

IF THE SAFETY VALVE DOES NOT WORK PROP-ERLY, OVER-PRESSURIZATION MAY OCCUR CAUSING AIR TANK RUPTURE OR EXPLOSION. DAILY PULL THE RING ON THE SAFETY VALVE TO MAKE SURE THAT THE SAFETY VALVE OP-ERATES FREELY. IF THE VALVE IS STUCK OR DOES NOT OPERATE SMOOTHLY, IT MUST BE REPLACED WITH A VALVE HAVING THE SAME PRESSURE RATING.

## 

SERIOUS INJURY OR DAMAGE MAY OCCUR IF PARTS OF THE BODY OR LOOSE ITEMS GET CAUGHT IN MOVING PARTS. NEVER OPERATE THE OUTFIT WITH THE BELT GUARD REMOVED. THE BELT GUARD SHOULD BE REMOVED ONLY WHEN THE COMPRESSOR IS UNPLUGGED.

#### Belt Guard - Removal and Installation (Refer to Outfit Parts Listing, if required.)

- 1. Move the "ON/AUTO-OFF" lever to the "OFF" position. Unplug the compressor. Release all air tank pressure.
- On one-piece belt guards, remove the two beltguard screws on the bottom front of the outfit.
- 3. On two-peice belt guards, remove the front of the belt guard by disengaging the snaps. Insert a flat bladed screwdriver at each snap location and pry the beltguard apart.

#### **Replace Belt**

- 1. Unplug compressor.
- 2. Remove (one-piece) beltguard, or front of (two-piece) beltguard as described above.

#### NOTE

Loosen the wing nut at the hold down plate. The motor can be tilted to allow for easy removal or installation of the belt.

3. Remove belt and replace.

NOTE

The belt must be centered over the grooves on the flywheel and motor pulley.

#### **Adjust Belt Tension**

Adjust belt tension by tightening the wing nut until it makes contact with the washer, plus one additional turn.

#### **Pressure Switch - Replacement**

### **A**WARNING

PRESSURE LOADS BEYOND DESIGN LIMITS MAY CAUSE TANK RUPTURE OR EXPLOSION. PRESSURE SWITCH OPERATION IS RELATED TO MOTOR HP, TANK RATING AND SAFETY VALVE SETTING. DO NOT ATTEMPT TO ADJUST, REMOVE OR DEFEAT THE PRESSURE SWITCH, OR CHANGE AND MODIFY ANY PRESSURE CON-TROL RELATED DEVICE. IF REPLACEMENT IS NECESSARY, THE SAME RATED SWITCH MUST BE USED. CONTACT A DEVILBISS AIR POWER AUTHORIZED SERVICE CENTER FOR REPLACE-MENT.

#### **Motor Overload Protector - Reset**

The motor has a manual thermal overload protector. If the motor overheats for any reason, the overload protector will shut off the motor. The motor must be allowed to cool down before restarting. Turn the unit off. To restart, depress the red reset button located on the end of the motor and turn ON/ AUTO-OFF switch to the ON position.

If the overload protector shuts the motor off frequently, check for a possible voltage problem. Low voltage can also be suspected when:

- 1. The motor does not get up to full power or speed.
- 2. Fuses blow out when the motor is started.
- 3. Lights dim when motor is started, and re
- main dim while it is running.

#### **Pulley and Flywheel - Alignment**

The compressor flywheel and motor pulley grooves must be in-line within 1/32" to assure belt alignment within sheave grooves. To check alignment, unplug compressor and remove the beltguard. Place a straight edge against the outside of the flywheel and measure the distance from it to the nearest groove. Alignment is achieved when the other end of the straight edge is within 1/32" of the measured dimension at the pulley grooves.

#### **Servicing Intake and Exhaust Valves**

The intake and exhaust valves as well as the valve plates and cylinder head will, over a period of time, accumulate a residue of carbon-like material on their surfaces. The material will decrease the efficiency of the compressor. These components should be inspected whenever a problem is suspected and cleaned or replaced with new parts. Refer to "Outfit PartsListing", if required. Use the following procedure to inspect the parts.

- 1. Unplug compressor and relieve all air pressure from the air tank.
- 2. Disconnect the pressure release and outlet lines from the air compressor.
- 3. Remove the hardware securing the cylinder head and remove the cylinder head and valve plate.

#### **A**WARNING

#### MANY SOLVENTS ARE HIGHLY FLAMMABLE AND A HEALTH HAZARD IF INHALED. ALWAYS OBSERVE THE SOLVENT MANUFACTURER'S SAFETY INSTRUCTIONS AND WARNINGS.

- 4. Clean carbon deposits in head cavities and valve plates with lacquer thinner or other suitable solvent.
- Clean the intake and exhaust valves with lacquer thinner or other suitable solvent. Inspect valves; replace if necessary.

#### NOTE

#### Do not use gasket cement on any gasket surface as this may clog compressor valve cavities and air flow areas.

- 6. Reinstall valve plate and gaskets.
- 7. Install the cylinder head. Snug mounting screws and studs tight, then torque to 25 to 30 foot pounds starting at the center and working toward the outside.
- 8. Reconnect the pressure release and outlet lines to the compressor pump.

## STORAGE OF COMPRESSOR OUTFIT

- 1. Review the "Maintenance" section on the preceding pages and perform scheduled maintenance as necessary. Drain the water from the air tank.
- 2. Set the ON/AUTO-OFF switch to the "OFF" position, and unplug the unit.
- 3. Remove any air tool or accessory.
- 4. Protect the electrical cord and air hose from damage (such as being stepped on or run over). Wind them loosely around the outfit handle.
- 5. Store the compressor in a clean and dry location.

# TROUBLESHOOTING GUIDE

#### PERFORMING REPAIRS MAY EXPOSE VOLTAGE SOURCES, MOVING PARTS OR COMPRESSED AIR SOURCES. PERSONAL INJURY MAY OCCUR. PRIOR TO ATTEMPTING ANY REPAIRS, UNPLUG THE COMPRESSOR AND BLEED OFF ALL TANK AIR PRESSURE.

PROBLEM	CAUSE	CORRECTION
Excessive tank pressure - safety valve pops off.	Pressure switch does not shut off motor when compressor reaches "cut-out" pressure.	Move the pressure switch lever to the "OFF" position. If the outfit doesn't shut off, and the electrical contacts are welded together, replace the pressure switch.
	Pressure switch "cut-out" too high.	If the contacts are good, check to see if the pin in the bottom of the pressure release valve is stuck. If it does not move freely, replace the valve.
		Return the outfit to an Authorized War- ranty Service Center to check, remove or replace switch.
Air leaks at fittings.	Tube fittings are not tight enough.	Tighten fittings where air can be heard escaping. Check fittings with soapy water solution. <b>DO NOT OVER-TIGHTEN.</b>
Air leaks at or inside check valve.	Defective or dirty check valve.	A defective check valve results in a constant air leak at the pressure release valve when there is pressure in the tank and the compressor is shut off. Remove and clean or replace check valve. <b>DO NOT OVER-TIGHTEN.</b>
Air leaks at pressure switch release valve.	Defective pressure switch release valve. Defective check valve.	Remove and replace the release valve. A defective check valve results in a constant air leak at the pressure release valve when there is pressure in the tank and the compressor is shut off. Remove and clean or replace check valve. <b>DO</b> <b>NOT OVER-TIGHTEN.</b>
Air leaks in air tank or at air tank welds.	Defective air tank.	Air tank must be replaced. Do not repair the leak. DO NOT DRILL INTO, WELD OR OTHERWISE MODIFY AIR TANK OR IT WILL WEAKEN. THE TANK CAN RUPTURE OR EXPLODE.
Air leak from safety valve.	Possible defect in safety valve	Operate safety valve manually by pull- ing on ring. If valve still leaks, it must be replaced.

## TROUBLESHOOTING GUIDE (CONT'D)

PROBLEM	CAUSE	CORRECTION
Knocking noise	Restricted or defective check valve.	Remove and clean or replace.
	Loose pulley.	Torque pulley set screw, see page 10.
	Low oil level.	Maintain prescribed oil level. Add oil.
	Loose flywheel.	Torque screw 15-20 ft. lbs.
	Loose compressor mounting screws.	Check screws. Torque as required (15-
	Loose belt.	20 ftlbs.) Tighten wing nut until it contacts the
	Belt too tight.	washer, plus one more turn. Adjust belt tension (see "Belt Replace-
	Carbon build-up.	ment".) Remove the head and valve plate. Clean
		the valve plate and top of the piston. (Be sure carbon does not fall into the cylin-
		der.) Reassemble to 25-30 ft. lbs. using new gasket and torque screws.
Motor will not run.	Motor overload protection switch has	Let the motor cool off and reset switch
	tripped.	by pressing the red button located on the end of the motor. If the overload still
	Possible defective capacitor.	trips, check for defective capacitor. Return to Service Center for inspection
	Possible defective motor.	or replacement if necessary. Have checked at a local Authorized
		Warranty Service Center.
	Tank pressure exceeds pressure switch	Motor will start automatically when tank
	"cut-in" pressure.	pressure drops below "cut-in" pressure
	Chack value stuck open fails to reliave	of pressure switch.
	Check valve stuck open - fails to relieve head pressure; motor cannot start.	Remove and clean, or replace. <b>DO NOT OVER-TIGHTEN.</b>
	Loose electrical connections.	Check wiring connection inside pres-
	Loose electrical connections.	sure switch and motor terminal box area.
	Pressure release valve on pressure	1. Check fuse box for blown fuse and
	switch has not unloaded head pressure.	replace if necessary. Reset circuit
	Paint spray on internal motor parts.	breaker. Do not use a fuse or circuit
		breaker with higher rating than that
		specified for your particular branch circuit.
	Loose electrical connections.	2. Check for proper fuse; only Buss
		"Fusetron" Type T fuses are
		acceptable. 3. Check for low voltage conditions.
		4. Remove check valve and clean or
		replace if it is stuck open or closed. 5. Disconnect any other electrical appli-
		ances from circuit. The compressor
		must operate on its own branch circuit.
	Pressure release valve on pressure	6. Do not use an extension cord. Bleed
	switch has not unloaded head pressure.	the line by pushing the lever on the
		pressure switch to the OFF position, opening the pressure
	Paint spray on internal motor parts.	release valve. If the valve still
	and the second	doesn't open, it must be replaced. Have checked at an Authorized
		Warranty Service Center. Do not
		operate the compressor in the spray area. See Flammable Vapor
		Warning.

## TROUBLESHOOTING GUIDE (CONT'D)

PROBLEM	CAUSE	CORRECTION
Restricted air intake.	Dirty air filter.	Replace filter.
Compressor is not supplying enough air to operate accessories.	Prolonged excessive use of air. Compressor is not large enough for air requirement. Restricted air intake filter.	Decrease amount of air usage. Check the accessory air requirement. If it is higher than the CFM, SCFM or pres- sure supplied by your air compressor, you need a larger compressor. Clean or replace air intake filter. Do not operate the compressor in the paint
	Loose belt. Hole in hose. Check valve restricted. Air leaks.	spray area. Adjust belt tension. Check and replace if required. Remove and clean or replace. Tighten fittings. (See "Air Leaks" section of "Troubleshooting Guide".)
Excessive belt wear.	Belt is too loose or tight.	Adjust tension instructions. (See "Belt Asjustment or Replacement" section in this manual.
	Loose pulley.	Check for worn keyway or pulley bore. Also check for bent motor shaft. Re- place parts if necessary.
	Pulley misalignment.	Motor pulley and flywheel must be in line within 1/32". (See "Pulley and Flywheel - Alignment" section in this manual.)
Squealing sound.	Loose belt. There is no oil in the compressor.	Adjust belt tension. (See "Belt Replace- ment" section in this manual.) Add oil to top of fill hole in base.
Pressure reading on the regulated pres- sure gauge drops when an accessory is used.	It is normal for "some" pressure drop to occur.	If there is an excessive amount of pres- sure drop when the accessory is used, adjust the regulator. <b>NOTE</b> Adjust the regulated pressure under flow conditions (while the accessory is being used).
Regulator knob - continuous air leak. Regulator will not shut off at air outlet.	Dirty or damaged regulator internal parts.	Clean or replace regulator or internal parts.

## **SERVICE NOTES**

## **SERVICE NOTES**

## - GENERAL MANUAL FOR OIL LUBRICATED -SINGLE STAGE PORTABLE AIR COMPRESSOR

